



# Launch Mission Execution Forecast

**Mission:** Falcon 9 GPS III-4

**Issued:** 1 Oct 20 /0800L (1200Z)

**Valid:** 2 Oct 20 / 2143 – 2159L (3/0143 – 0159Z)



**Forecast Discussion:** A frontal boundary remains stalled south of the Spaceport today, resulting in lingering cloud cover but no precipitation for the Spaceport. Tomorrow, northerly winds will strengthen due to the gradient between the post-frontal high-pressure moving into the Upper Mid-West and a tropical disturbance forming near the Yucatan Peninsula. This will also bring slight rain chances over the Space Coast with the enhanced fetch. The primary concern for a Friday evening launch attempt is the Thick Cloud Layer Rule associated with the lingering frontal cloudiness.

The stalled front will begin to wave back north Saturday, as the tropical disturbance strengthens and the high-pressure area moves into the Mid-Atlantic States. This will bring the winds more northeasterly, increasing likelihood of rain and creating a slight risk of lightning along the Space Coast. This will also increase the coverage and depth of the clouds along the nearby frontal boundary. The primary launch weather concern Saturday evening remains the Thick Layer Cloud Rule, with the addition of the Surface Electric Field Rule due to the added instability.

Launch Day	Probability of Violating Weather Constraints							
	30%	Primary Concerns: Thick Cloud Layer Rule						
	Weather Conditions					Additional Risk Criteria		
	Weather/Visibility:	None / 7 mi.	Clouds				Upper-Level Wind Shear:	Low
			Type	Coverage	Base (ft)	Tops (ft)		
	Temp/Humidity:	72°F / 82%	Altostratus	Scattered	12,000	15,000	Booster Recovery Weather:	Low
	Liftoff Winds (200'):	020° 12 - 17 mph	Cirrostratus	Broken	24,000	28,000	Solar Activity:	Low
24-Hour Delay	Probability of Violating Weather Constraints							
	70%	Primary Concerns: Thick Cloud Layer Rule, Surface Electric Field Rule						
	Weather Conditions						Additional Risk Criteria	
	Weather/Visibility:	Isold Showers / 7 mi.	Clouds				Upper-Level Wind Shear:	Low
			Type	Coverage	Base (ft)	Tops (ft)		
	Temp/Humidity:	75°F / 85%	Stratocumulus	Broken	3,500	6,500	Booster Recovery Weather:	Low
	Liftoff Winds (200'):	050° 17 - 22 mph	Altocumulus	Overcast	10,000	16,000	Solar Activity:	Low
<b>Note:</b> The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.								
Next Forecast Will Be Issued		As Required						